

Amendments to the Claims:

The following listing of claims replaces all prior versions, and listings, of claims in the application. Since the amendment of October 28, 2004 was not entered, changes are shown in relation to the original claims:

Listing of Claims:

1. (Currently amended) ~~An amphipathic peptide conjugate having~~ A lipopeptide detergent properties and having a hydrophobic face and a hydrophilic face, said comprising a peptide moiety of the conjugate having the amino acid sequence AOEAAEKA AKYAAEAAEKA AKAOA and comprising a first end and a second end, wherein said first end is covalently linked to a first aliphatic hydrocarbon moiety and said second end is covalently linked to a second aliphatic hydrocarbon moiety, said aliphatic moieties being linked such that they associate with a hydrophobic region of the peptide moiety of the conjugate.

2. (Canceled)

3. (Currently amended) The ~~peptide conjugate~~ lipopeptide detergent as defined in claim 1, wherein said peptide comprises hydrophobic and hydrophilic regions.

4. (Currently amended) The ~~peptide conjugate~~ lipopeptide detergent as defined in claim 1, wherein said peptide comprises 15-35 amino acids.

5. (Currently amended) The ~~peptide conjugate~~ lipopeptide detergent as defined in claim 4, wherein said peptide comprises about 25 amino acids.

6. (Canceled)

7. (Currently amended) The ~~peptide-conjugate~~ lipopeptide detergent as defined in claim 1, wherein the length of said peptide is approximately equal to the width of a phospholipid bilayer.
8. (Currently amended) The ~~peptide-conjugate~~ lipopeptide detergent as defined in claim 7, wherein the length of said peptide is in the range of about 3.5-4.0 nm.
9. (Currently amended) The ~~peptide-conjugate~~ lipopeptide detergent as defined in claim 8, wherein the length of said peptide is about 3.7 nm.
10. (Currently amended) The ~~peptide-conjugate~~ lipopeptide detergent as defined in claim 1, wherein the termini of said peptide are protected.
11. (Currently amended) The ~~peptide-conjugate~~ lipopeptide detergent as defined in claim 10, wherein the N-terminus of said peptide is acetylated and the C-terminus of said peptide is amidated.
12. (Currently amended) The ~~peptide-conjugate~~ lipopeptide detergent as defined in claim 1, wherein said aliphatic hydrocarbon moieties each comprise from about 8-24 carbon atoms.
13. (New) The peptide conjugate as defined in claim 2, wherein said conjugate is comprised of a peptide scaffold CH₃CONH-AOAEAAEKAAKYAAEAAEKAAKAOA-CONH₂ coupled at each end to an aliphatic fatty acid selected from the group consisting of decanoic acid, dodecanoic acid, tetradecanoic acid, hexadecanoic acid, octadecanoic acid, eicosanoic acid, docosanoic acid, tetracosanoic acid, and octacosanoic acid.

14. (New) The peptide conjugate as defined in claim 1, wherein each of said aliphatic hydrocarbon moieties is an aliphatic hydrocarbon tail having a length of from 10 to 28 carbon atoms.

15. (New) The peptide conjugate as defined in claim 14, wherein each of said aliphatic hydrocarbon moieties is an aliphatic hydrocarbon tail having a length of 16 carbon atoms.

16. (New) The peptide conjugate as defined in claim 14, wherein each of said aliphatic hydrocarbon moieties is an aliphatic hydrocarbon tail having a length of 12 carbon atoms.

17. (New) A peptide conjugate as defined in claim 1, wherein said aliphatic hydrocarbon moieties are covalently linked to the peptide moiety the ornithine residues of the peptide moiety.

18. (New) A composition comprising membrane proteins stabilized by a lipopeptide detergent as defined in claim 1.

19. (New) A composition comprising a biological membrane treated with a lipopeptide detergent as defined in claim 1.